الباب الثالث عشر

امتحانات متنوعة

Various Exames

جامعة قناة السويس — الفرقة :إعدادي

كلية هندسة البترول والتعدين بالسويس — الزمن : ساعة و نصف

قسم العلوم والرياضيات الهندسية — التاريخ: 17/1/2010

تخلفات تفاضل

امتحان نهاية التيرم الأول

أجب عن الأسئلة الآتية:

السؤال الأول: (25 درجة)

ا) عرف كل من الدوال الاتية موضحا بالرسم: دالة الجيب- دالة جيب التمام.

ب) باستخدام التعريف العام للتفاضل أوجد المشتقة الأولى للدالة الأتية : $y = \cos x$

ج) أوجد المعامل التفاضلى للدوال الاتيه: $y = \operatorname{cosec} x$

$y = \cosh x$

د) اوجد المشتقة النونية للدالة الاتية: $y = x^4 e^{-3x}$

السؤال الثانى: (25 درجة)

أ) اذا كانت $f(x) \in N(4,3), f(x) = 3x + 7$ اوجد ε لكل

$x \in N(-1,0.1)$

ب) اوجد نهاية الدالة $\lim_{x\to 2}\frac{3x+4}{5x+7}$

ج) اذا كانت $f(x)=\begin{cases}3x-2 & \text{if } x<2\\ x^2 & \text{if } x>2\end{cases}$

اوجد $\lim_{x\to 2} f(x)$

د) هل تحقق الدالة $y = x^2 |x|$ شروط نظرية رول فى الفترة $[-1, 1]$.

السؤال الثالث: (25 درجة)

أ) باستخدام قاعدة اوبيتال احسب النهايات التالية : $\lim_{x\to 2}\frac{\ln(x^2-3)}{x^2+3x-10}$

ب) اوجد متسلسلة مكلورين للدالة $\cos x$ والدالة $\ln(1+x)$ فى قوى x التصاعدية .

ج) اوجد النقطة الحرجة للدالة $f(x)=(x+5)^2\sqrt[3]{x-4}$

د) : أوجد معادلتى المماس والعمودى للمنحنى $\sqrt{x/y}+\sqrt{y/x}=5/2$ عند النقطة(6, 3) .

مع تمنياتي بالنجاح ا. د/ عادل نسيم

جامعة قناة السويس — الفرقة :إعدادي
كلية هندسة البترول والتعدين بالسويس — الزمن : ساعة و نصف
قسم العلوم والرياضيات الهندسية — التاريخ: 2009/1/22

تفاضل

امتحان نهاية التيرم الأول 2009/2008

أجب عن الأسئلة الآتية:

السؤال الأول: (17 درجة)

ا) عرف كل من موضحا بالرسم: دالة الجيب- دالة جيب التمام.

ب) باستخدام التعريف العام للتفاضل أوجد المشتقة الأولى للدالة الأتية $y = \ln x$:

ج) أوجد المعامل التفاضلى للدوال الاتيه:

$y = \tan x$ و $y = \cosh x$

د) اوجد المشتقة النونية للدالة الاتية: $y = x^4 e^{-3x}$

السؤال الثانى: (17 درجة)

أ) اذا كانت $f(x) \in N(4,3), f(x) = 3x + 7$. اوجد ε لكل $x \in N(-1, 0.1)$

ب) اوجد نهاية الدالة $\lim_{x \to 2} \frac{3x + 4}{5x + 7}$

ج) اذا كانت

$$f(x) = \begin{cases} 3x - 2 & \text{if } x < 2 \\ x^2 & \text{if } x > 2 \end{cases}$$

اوجد $\lim_{x \to 2} f(x)$

د) هل تحقق الدالة $y = x^2 |x|$ شروط نظرية رول فى الفترة $[-1, 1]$.

السؤال الثالث: (16 درجة)

أ) باستخدام قاعدة اوبيتال احسب النهايات التالية : $\lim_{x\to 2} \frac{\ln(x^2-3)}{x^2+3x-10}$

ب) اوجد متسلسلة مكلورين للدالة $\cos x$ **والدالة** $\ln(1=x)$
فى قوى x التصاعدية .

ج) اوجد النقطة الحرجة للدالة $f(x)=(x+5)^2\sqrt[3]{x-4}$

د) : أوجد معادلتى المماس والعمودى للمنحنى $\sqrt{x/y}+\sqrt{y/x}=5/2$ عند النقطة (6, 3) .

مع تمنياتي بالنجاح **ا. د/ عادل نسيم**

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